

KW11-L
line time clock
engineering drawings

CUSTOMER PRINT SET INDEX

THIS IS PRINT SET

SEQUENCE

TEST PROCEDURE

A-SP-KW11-L-03

UNIT VARIATIONS

PRINT SET TYPE	
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VARIATION

TITLE

KW77-L

LINE FREQUENCY CLOCK	
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1777

4

USED ON OPTION/MODEL

DRN.

S. A. H. N. V. A.

CHK'D
M 2

PROJ

PROF. W. A.

PRO

10

FIELD

11

DATE _____

2-4478

DATE 1-2-81

1	6-13-7
	DATE

DATE
- 6-14-77

DATE	04/12/20
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6/14/72

DATE 6/11/55

6-19-72

TITLE

LINE FREQUENCY CLOCK (KW11-L)

2	SIZE	CODE
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	B	DD
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NUMBER

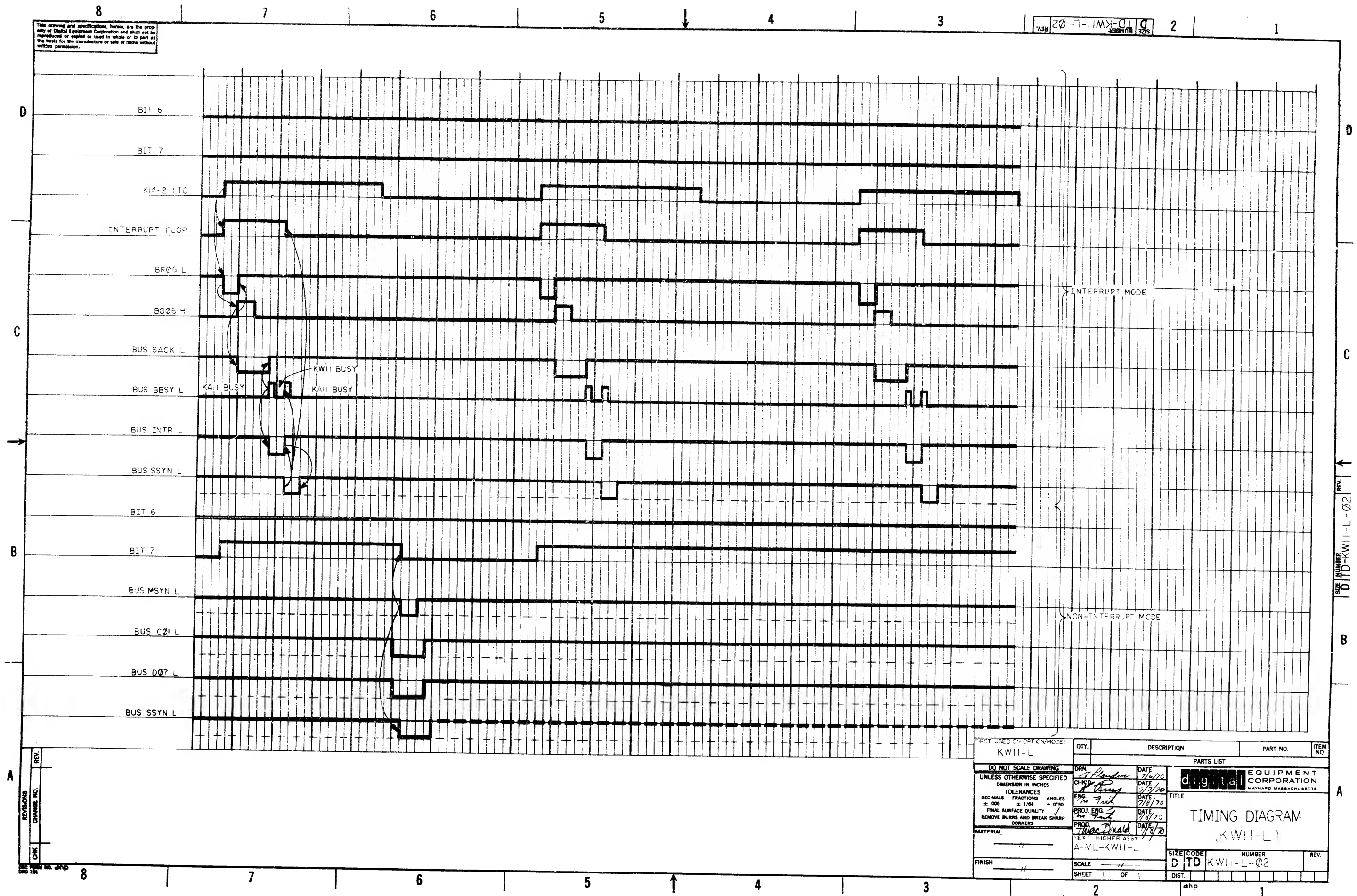
KW11-L-Ø

REV

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DIST

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PARTS REFERENCE

ITEM NO.	DRAWING REFERENCE	DESCRIPTION	PART NUMBER	QUANTITY
1	R1, R3	390 Ω 1/4 W 5% CC	1300309	2
2	R2, R6 - R11	1K 1/4 W 5% CC	1300365	7
3	R4, R5	180 Ω 1/4W 5% CC	1301322	2
4	R12	2.4K 1/4W 5% CC	1303177	1
5	C1 - C15, C18, C19	.01 MFD 100V 20% DISC	1001610	17
6	C16, C17	580 MMF 100V 5% D.M.	1000025	2
7	Q1, Q2	TRANSISTOR DEC 3009 B.S.	1503100	2
8	E1, E5, E8, E9, E10	I.C. DEC 380	1909485	5
9	E2	I.C. DEC 7430	1905578	1
10	E3	I.C. DEC 8815	1909713	1
11	E4	I.C. DEC 7400	1905575	1
12	E6, E7, E13	I.C. DEC 7474	1905547	3
13	E11	I.C. DEC 7404	1909686	1
14	E12, E14, E15	I.C. DEC 8881	1909705	3

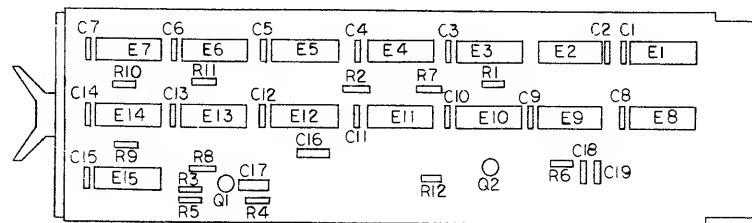
NOTES

- PIN NOTATION THROUGHOUT IS ORDERED UPON MODULE PLACEMENT IN THE K111 PROCESSOR. MODULE REFERENCE ALONE IS OBTAINED BY DELETING THE NUMBER (SLOT LOCATION) AFTER THE FIRST LETTER, AND CONVERTING THE FIRST LETTER ACCORDING TO THE PIN NOMENCLATURE CHART AT RIGHT.
- ALL SIGNALS THAT HAVE MODULE PINS ARE SO NOTED: MULTIPLE NOTATIONS OF THE SAME SIGNALS WITHIN A MODULE HAVE THE PIN NOTED ON EACH. AN INPUT SIGNAL IS NOTED ONLY ONCE PER SHEET UNLESS SEPERATE PINS ARE USED. MULTIPLE INPUTS ARE CONNECTED. MODULE OUTPUT SIGNALS ARE BROUGHT TO THE EXTREME RIGHT OF EACH SHEET.
- PROCESSOR SIGNAL SOURCE NOTATION (K10-2, FDP EXAMPLE) IDENTIFIES THE SIGNAL SOURCE (PRINT AND MODULE). THE FIRST NUMBER AFTER THE K INDICATES THE MODULE PRINT SET. WHILE THE SECOND INDICATES THE SHEET WITHIN THE SET. IF ON A PRINT, THE FIRST NUMBER OF THE K PREFIXES COINCIDE FOR A SIGNAL NAME AND THE PRINT (SEE TITLE BLOCK). THE SIGNAL IS GENERATED ON THE MODULE. A DIFFERENCE IN THE FIRST NUMBER OF THE K PREFIXES INDICATES A SIGNAL GENERATED FROM THE MODULE. SIGNALS WITH A "BUS" PREFIX REPRESENT A "WIRED OR" SITUATIONS AND MULTIPLE SOURCES FOR THE SIGNAL CAN EXIST.
- DETAILS ON COMPONENTS ARE NOTED IN THE PARTS REFERENCE. PLACEMENT IS NOTED IN THE COMPONENT PLACEMENT DIAGRAM.
- GND AND +5V ARE USUALLY PIN 7 AND PIN 14, RESPECTIVELY. EXCEPTIONS ARE:

IC TYPE	GND	+5V
DEC 7481	PIN 10	PIN 4
DEC 7482	PIN 11	PIN 4
DEC 8251	PIN 8	PIN 16
DEC 8271	PIN 8	PIN 16
DEC 380	PIN 1	PIN 8
DEC 384	PIN 1	PIN 8

- UNLESS OTHERWISE NOTED-RESISTANCE IS IN OHMS; CAPACITANCE IS IN MICRO MICRO FARADS, CAPACITORS WITHOUT ANY NOTED VALUES ARE .01MFD.

COMPONENT PLACEMENT



PIN NOMENCLATURE

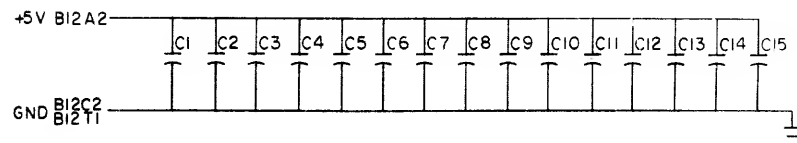
MODULE PROCESSOR

A

B

INSTALLATION PROCEDURE

- REMOVE JUMPER FROM B12V2 TO B12R2
- INSTALL M787 LINE FREQUENCY CLOCK MODULE IN K111 SLOT B12
- RUN MAINDEC DEC-11-D20A LINE FREQUENCY CLOCK TEST



QTY.	DESCRIPTION	PART NO.	ITEM NO.
PARTS LIST			
FIRST USED ON OPTION/MODEL KW11-L		DO NOT SCALE DRAWING UNLESS OTHERWISE SPECIFIED DIMENSIONS IN INCHES TOLERANCES DECIMALS FRACTIONS ANGLES ± .003 ± 1/64 ± .020 FINAL SURFACE QUALITY REMOVE BURRS AND BREAK SHARP EDGES	
MATERIAL —		NEXT HIGHER ASSY A-ML-KW11-L	
FINISH —		SCALE SHEET 1 OF 2	
DATE 7/15/70 BY M. F. L. PROJ. ENG. M. F. L. DATE 7/15/70		DATE 7/15/70 BY M. F. L. PROJ. ENG. M. F. L. DATE 7/15/70	
digital EQUIPMENT CORPORATION MAYNARD, MASSACHUSETTS		TITLE LINE FREQUENCY INTERVAL CLOCK	
SIZE CODE D		NUMBER BSKW11-L-01	
REV. A		REV. A	

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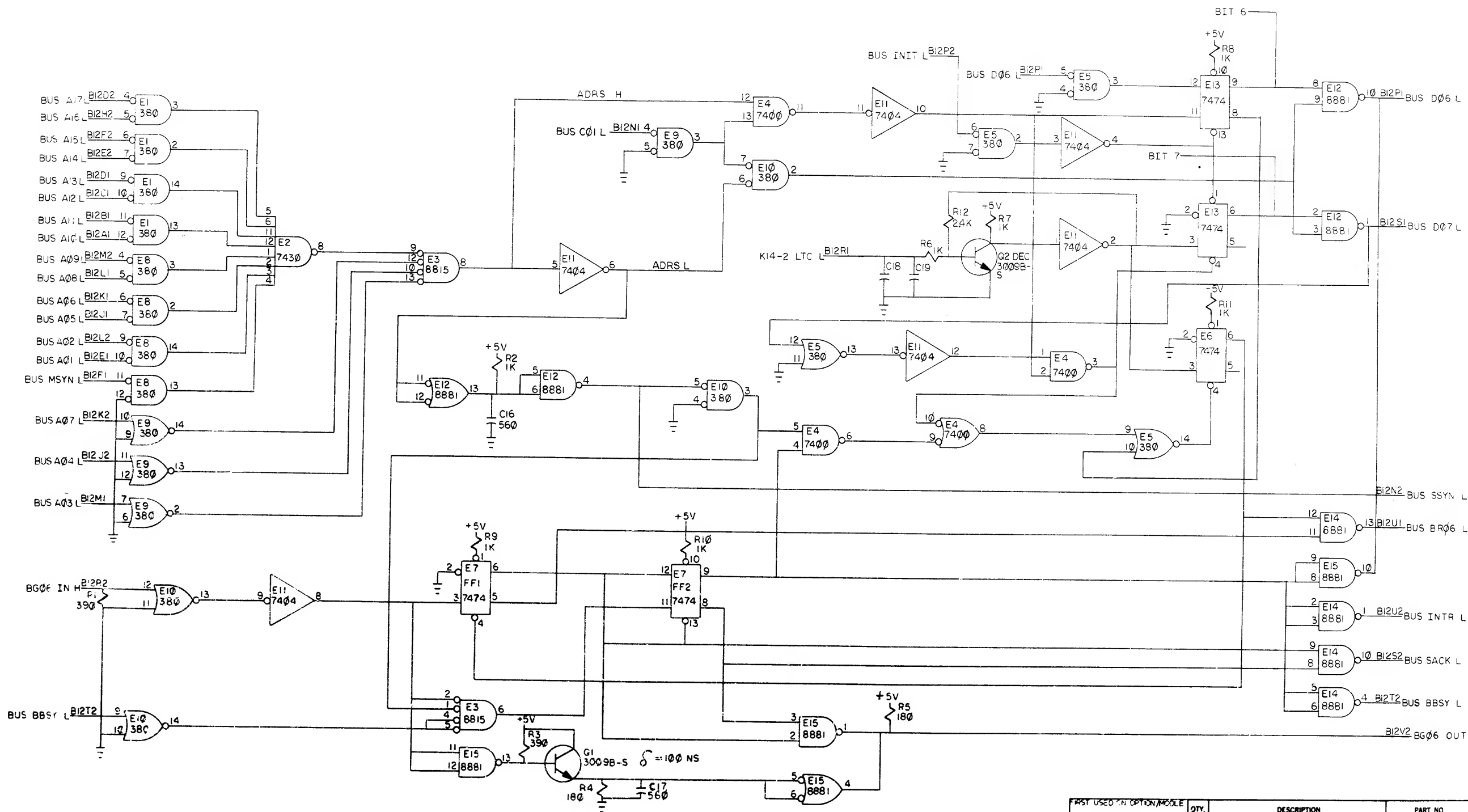
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3

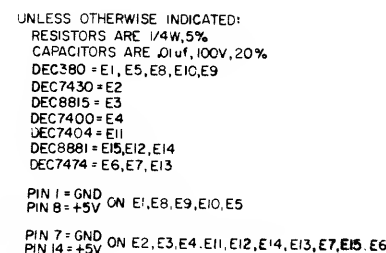
10-7-11MKS8a 2

1



FIRST USED IN OPTION/MODULE		QTY.	DESCRIPTION	PART NO.	ITEM NO.
KW11-L					
UNLESS OTHERWISE SPECIFIED		DRN	DATE	PARTS LIST	
UNLESS OTHERWISE SPECIFIED		DATE	DATE	digital EQUIPMENT CORPORATION	
DIMENSIONS IN INCHES		DATE	DATE	MAYNARD, MASSACHUSETTS	
TOLERANCES		DATE	DATE	TITLE	
DECIMALS FRACTIONS ANGLES		DATE	DATE	LINE FREQUENCY	
± 0.01 ± 1/64 ± 0°30'		DATE	DATE	INTERVAL CLOCK	
FINAL SURFACE QUALITY		DATE	DATE	SCALE	
REMOVE BURRS AND BREAK SHARP CORNERS		DATE	DATE	SHEET 2 OF 2	
MATERIAL		DATE	DATE	REV	
A-M-L-KW11-L		DATE	DATE	A	
FINISH		DATE	DATE	DISTRIBUTION	
		DATE	DATE		

CS	CS	D	SIFT
NUMBER	M787-0-1	C	REV



REVISED		
CHG	CHG NO	REV
1	00001	A
2	00002	B
3	00003	C

DRN	BUTLER	DATE	4-2-70
CHMD		DATE	4-23-70
ENG	7-2-70	DATE	7/4/70
PROD		DATE	

TRANSISTOR & DIODE CONVERSION CHART			
DEC		EIA	
DEC3009E	2N3009B	D664	1N3606



DIGITAL
EQUIPMENT
CORPORATION

TITLE LINE TIME CLOCK INTERRUPT M787			
SIZE D	CODE CS	NUMBER M787-0-1	REV C

DIGITAL EQUIPMENT CORPORATION
MAYNARD, MASSACHUSETTS

PARTS LIST

MADE BY M. Buczynski

DATE 6-15-72

CHECKED

DATE 7/30/72

SECTION

ENG M. Buczynski

DATE 6-15-72

DATE	7/2/68
PROD	17 Strings

DATE 7/15/72

ISSUED SECT.

QUANTITY VARIATION

[illegible]

[illegible]